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THE ART
OF
TRANSPARENT PAINTING
ON GLASS.

COMPRISING THE METHOD OF PAINTING, AND AN ACCOUNT OF THE
IMPLEMENTS AND MATERIALS EMPLOYED IN PRODUCING SUBJECTS
FOR DISSOLVING VIEWS, MAGIC LANTERNS, &c.
CHROMATROPES, MECHANICAL SLIDES AND CONTRIVANCES FOR
OBTAINING EFFECTS OF MOTION AND COLOUR.

BY EDWARD GROOM.

WITH ILLUSTRATIONS BY THE AUTHOR ENGRAVED BY DALZIEL.

4/.

Ars probat artificem.

LONDON:
WINSOR AND NEWTON, 38, RATHBONE PLACE,
Artists' Colour Makers, by Special Appointment, to Her Majesty,
and to H. R. H. Prince Albert.
1855.

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LONDON:
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PREFACE.

In dealing with the subject of this Manual, it is felt that Painting on Glass is becoming daily of increasing utility in the illustration of Science. It might have been treated at much greater length. But, as a subject, coming within the plan of this series of Handbooks, it is considered sufficient to afford, as in other cases, the best principles for the Practice of the Art, which as a basis will enable the ingenious student to advance to the highest degree of excellence, by forming for himself according to these fundamental precepts, combinations, whereby may be represented the most marvellous imitations of natural movement and phenomena. Painting on Glass, was long confined to the supply of slides for the magic lantern. It has lately been used in illustration of Natural Philosophy; and to its utility in this direction no limit can be assigned.

The magic lantern has been considered, but as an uninstructive toy—it may still in some respects be regarded as a toy—but a toy of that kind by which those who seek amusement from it may also be instructed. It is not, we may repeat, within the intention of this little Book to proceed to those elaborate gravities to which the subject in its cultivation must lead. The practice proposes either amusement or profit, according to the feeling with which it may be taken up, and those who may cultivate it with this or that view will it is hoped not be slow to avail themselves of the suggestions herein offered as to the relation of the representations on glass with microscopic effects, dissolving views, and all illustrations of natural phenomena so interesting to every inquiring intelligence.

H. M.

THE ART
OF
TRANSPARENT PAINTING
ON GLASS.

INTRODUCTION.

In this little Treatise it is proposed to afford, as simply as possible, instruction in Transparent Painting on Glass, principally in reference to the production of pictures suitable for dissolving views. These beautiful illusions are still confined to public institutions, though so easily adaptable as a valuable auxiliary of general education, and an interesting means of domestic amusement.

Dissolving views need not necessarily be of such magnitude as those presented in public exhibitions; nor is it indispensable that the apparatus be very costly. The represented dimensions of the pictures depend upon the capacities of the apparatus, and their perfection will be in proportion to the skill of the artist.

It is here submitted that painting on glass should contribute amusement of a more useful kind than that afforded by the grotesques of the magic-lantern; that it should be employed as a means of instruction in branches of knowledge, susceptible of extensive and easy communication by means of such an auxiliary.

As a toy, the magic-lantern has long been extensively popular; and hence it is matter of surprise, that the views and figures which are prepared for it, should have so long remained devoid of common merit.

Every department of art in this country has, of late years, made great advances; but the inferior quality of painting on glass is attributable to many circumstances, which it is not our purpose to consider here. Had the magic-lantern been employed as a medium of instruction, the pictures exhibited must have been of a character incomparably superior to what they are. Had there been a demand for productions of any degree of excellence, it is certain that they had been forthcoming. For the execution of these works, daylight is not necessary; indeed, as they are intended for exhibition by artificial light, it is found that the effect of those executed by gas, or lamplight, is preferable to that of those painted by daylight.

The value of truthful pictorial representations, as illustrative of written, or oral descriptions, is universally acknowledged, as far as it has been applied; but its application is by no means so general as it might be. The employment of painting on glass, we would suggest, as a means of simplifying lectures on many branches of knowledge.

We see continually this kind of art used in imaginative compositions. There is no reason why this should be discontinued. In addition, however, to its adaptation to purposes of mere amusement, we would suggest its adaptation to the elucidation of science, and the illustration of truth.

Although painting on glass has not been utilized according to its capabilities, no medium of illustration could be more successfully employed in augmenting the interest of science. By this means, more fully than by any other, astronomical phenomena could be explained. The revolution of the planets round the sun, that of the moon round the earth, as also the rotundity of the earth, could be satisfactorily shown. The last could be beautifully described by the appearance of a ship first cutting the horizon, with her dimly visible masts and spars, then rising on the crest of the horizon, and ultimately descending into the nearer field of view. The phases of the moon, and the phenomena of the tides, could be amply illustrated; and discourses on Natural History might be rendered doubly interesting to youthful students, by life-sized portraits of animals, and pictorial descriptions of their habits; and not only to youth, but to students of mature years, would well-executed pictures convey in each representation a greater amount of information than could be communicated by the most elaborate unillustrated essays.

Discourses, orally delivered, and descriptions assisted by faithful pictures impress the mind more sensibly than written treatises. Next to actual examination, and study of the reality, there is no other method so available for the communication of valuable knowledge. The entire cycle of known astronomical phenomena can be shown by the aid of this art; and in history, topography, physical geography, and geology, finished and accurate pictures on glass would more nearly approach the truth, than mere outlines and diagrams.

To instance more directly the art we are considering, in its application to minute and variously descriptive detail, let us suppose that it is intended to describe the Chinese Empire. Perhaps the first consideration that would occur to the essayist, would point to the geographical position of the country, and its local relation to neighbouring countries. The chief cities, and remarkable scenery of the country, might be detailed by pictures and oral descriptions. These would be accompanied by representations of the inhabitants, their costumes, manners, commerce, and manufactures; and all this might be carried out with marvellous fidelity and exactitude, by the assistance of photography; which would supply a comprehensive and searching representation, that the most accomplished sketcher could never hope to achieve.

We instance China only, as an example of what may be done; not but that we possess endless resources nearer home. In these times, each succeeding year opens subjects of new and varied interest, which may be fully and accurately illustrated by means of paintings on glass. To every subject available for illustration by designs and pictures, this art can be applied with advantage. Public taste has declared in favour of illustrated literature. If, therefore, to letter-press descriptions of localities and personal incidents, cuts and engravings are found useful; the like accompaniments, to an oral discourse, will give proportionately greater interest.

A decided, and increasing popularity has been accorded to series of panoramic pictures, accompanied by descriptive lectures; but the expense of good panoramic compositions, as they are generally painted in oil, amounts almost to prohibition of their more general use. On the contrary, paintings on glass, which are intended for adaptation to a lantern, are necessarily small; but, when in use, they are thrown in magnified expansion over an extended surface.

In the use of painting on glass, as here contemplated, photography will be found an invaluable aid. Photographic pictures, themselves, may be thrown on to the disc; but the advantages and facilities which photography presents in obtaining accurate views of sites, buildings, and objects, cannot be too highly estimated.

PART I.

IMPLEMENTS AND MATERIALS.

THE working requisites and materials, are glasses, frames, a fine pointed pencil and holder, palette knife, brushes, dabbers, rest stick, a round pointed knife, an etching needle, a few pieces of cloth, and water-colours.

A few observations on the qualities of materials, may assist the student in the selection of those best suited for his purpose, and thus time and expense may be saved.

GLASS has a rough and a smooth side. The means of distinguishing these, is to draw the finger-nail over the surface, when the rough side may be readily determined by the gritty particles which occur sensibly to the nail. As these particles would prevent the colour from lying evenly, the smooth side is that on which the drawing must be made, and the painting executed. For common subjects, that material called flatted crown glass, will be found suitable, but if nicety of execution is necessary, the plate-glass must be used. In all cases, it must be as free from specks as possible, and of the same size as the object-glass of the magic lantern, through which the pictures are to be exhibited.

FRAMES are generally made of mahogany, but deal will answer equally well. Any carpenter can make the square and oblong frames; but when they are required to be circular, it will be necessary to have the circles cut by a turner.

THE FINE-POINTED PEN and holder are for drawing outlines, and they will be found more available and expeditious than a brush. Perhaps the best tool for outline, is one of the cheap gold pens, which are now abundantly made. The colour in this will not dry so quickly, nor will it corrode like the steel pen.

THE PALETTE may be either of porcelain free from specks or grit, or of enamelled wood. The latter is lighter, but it will not wear so well as the former. It should be perforated, so as to balance well on the thumb of the left hand.

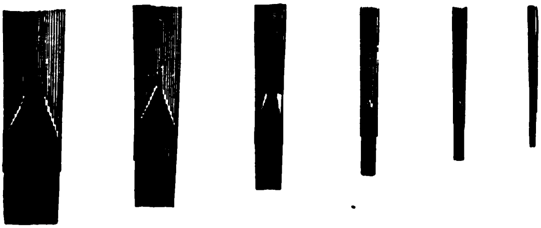
The tints are mixed and arranged upon it, and care must be taken to keep it clean, and free from scratches.

THE PALETTE KNIFE is used to mix tints, and to place them upon, or remove colour from the palette. It should be thin, flexible, and tapering towards the point.

THE BRUSHES should be of sable, of a pale yellowish colour; soft to the touch, yet firm and elastic, insomuch as at once to resume their form after being pressed laterally against the hand. In form, they should be flat and wedge like, and without any straggling or diverging hairs. None but those of the best manufacture should be used. As the quality of the execution depends so much upon the excellence of these brushes, any care exercised in securing those best suited to the purpose, will be amply compensated in the work.

The accompanying cuts describe the most useful sizes.

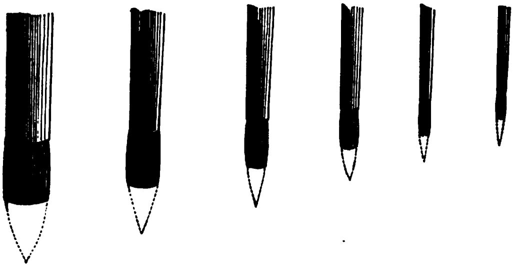
FIG. 1.



Dabbers (so called from their use) must be made by the student; and as all finish depends upon them, great nicety must be observed in preparing them.

They are formed of round brushes of very fine camel's hair, of the sizes shown below. The points must be cut off as in the dotted lines of the cut, and the blunted ends must be held to the flame of a candle, so as to form and round them. This is an operation of some delicacy, but a little practice will soon enable the student to perform it successfully. They must be turned and moved to and fro, so as to singe them into the desired form; after which, the burnt ends must be cleared and finished off, by rubbing upon the fine sand-paper known as number O. The cut shows the form of these brushes when burnt.

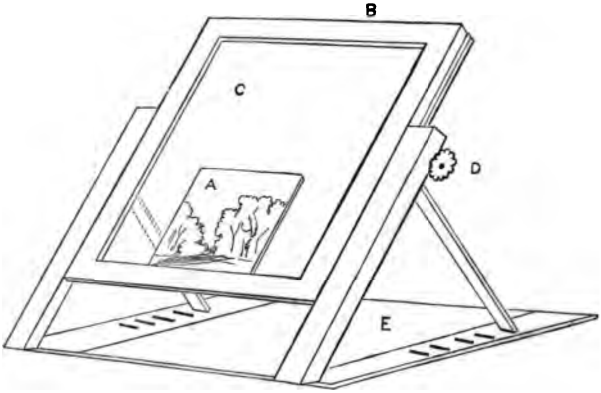
FIG. 2.



THE EASEL best adapted for painting on glass, will be obtained by taking a rack easel drawing-board, and inserting a framed piece of glass instead of the shifting board. The accompanying diagram will best explain its use and management.

A is the piece of glass to be painted on; B the lifting frame of the easel, into which is inserted the plate of glass C, occupying the place of the shifting board which the frame commonly contains. The frame slides in grooves, and is fixed at any height convenient to the painter, by means of the screw D. The horizontal rack-board E, is

FIG. 3.



covered with white paper, or card-board, in order that the effect of the colours applied may be clearly seen.

THE REST STICK is used as in oil painting, to rest and steady the hand, when neatness and precision of touch are necessary. The lower end is held in the left hand, and the upper extremity rests in the course of working upon any convenient part of the easel. It should be light, firm, and, in all respects, such as can be held without inconvenience.

A ROUND POINTED KNIFE is useful for removing colour, when the effect of white is to be given, and also for improving lines by paring their edges. For this purpose, an ordinary single bladed pocket-knife will be found the best. It should be kept in good condition; that is, sharp and smooth at the rounded point.

AN ETCHING NEEDLE is required for describing minute touches of light, such as those on the blades of grass.

PIECES OF CLOTH are used for cleaning the brushes and dabbers, to which the utmost attention must be paid, if the student would secure purity and brilliancy of colour. These pieces of cloth should have very little nap on them.

THE COLOURS are those prepared for water-colour painting, and procurable in tubes. The following are the most valuable for painting on glass.

YELLOW.

Gamboge.
Italian Pink.
Gallstone.
Indian Yellow.

RED.

Madder Lake.
Crimson Lake.

BLUE.

Prussian Blue.
Indigo.

ORANGE.

Burnt Sienna.

BROWN.

Madder Brown.
Vandyke Brown.

BLACK.

Lamp Black.

The number of colours available for painting on glass is necessarily limited. Only those which are transparent—that is, through which light is transmitted—can be used.

PART II.

METHOD OF PAINTING ON GLASS.

INSTRUCTIONS for working may be divided according to the diversity of the operations; viz., Outlining, Securing, First Painting, Second Painting, Third Painting, and Finishing.

THE OUTLINE.

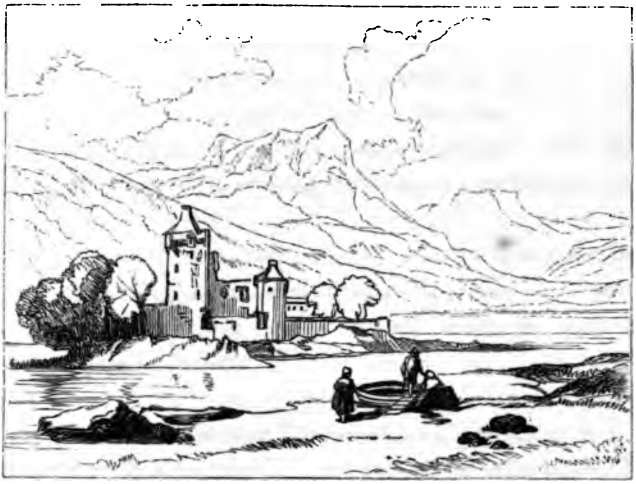
The chief desideratum in an outline is, that it shall remain undisturbed through the subsequent paintings. If the subject be an engraving, and the glass to which it is to be transferred will sufficiently cover it, the shortest process is to trace it. To accomplish this, place the engraving upon a flat surface, with its rough side downward, upon the part to be traced. When the position of the glass is determined, in order to secure it from moving, small weights should be placed resting on the edges. Before being worked upon, the glass must be well rubbed with a silk handkerchief; and the glass should be sufficiently large to leave a margin of about one-eighth of an inch, to allow the pasting of a narrow paper rim, to support the glass which is placed over the picture when finished.

In a small saucer, prepare a tint of rose madder and Prussian blue, using a little ox gall in the water. With this tint, charge a middling sized brush, and from this reservoir supply the pen. Commence with the distance, and trace all the outlines, using the pen with a light, but firm touch, and without hesitation, as any error can be easily remedied afterwards. Prepare, in another saucer, a tint of madder brown, with a very little Prussian blue, with which trace the middle distance, or those parts of the composition which lie between the foreground and the remoter distance. It will be seen in the engraving that the lines are firmer, and the objects have more solidity in proportion as they are nearer the foreground. This feeling must be observed in the tracing.

The tint for the foreground will consist of madder brown and burnt sienna, with which, and with a touch yet firmer than those of the distance, the foreground must be drawn. It would be well to outline the objects in the foreground with their local colours; but this had better not be attempted until the student has made some progress, and attained to some executive power.

When the tracing or drawing is completed, the glass

FIG. 4.



must be removed to the easel, which will be placed with regard to the window, so that a full light fall upon the white card-board. If the painting is executed by lamplight, a green paper shade will be found useful, for throwing the light upon the proper place, and for protecting the eyes from the glare.

The drawing may be examined by reversing it; errors, if there be any, will thus become at once apparent. Corrections must be carefully effected by the aid of the knife, with which the lines are improved, or pared down, wherever they are ragged or thicker than they should be. When the drawing has been thus examined, and the necessary corrections effected, the operation of outlining is concluded.

We propose to explain the process of painting the subject, as a dissolving view, and the instructions from which the picture may be worked, will be equally available for any other subject.

By making a distinction between the tints, and the lines drawn for the respective distances, the student will make a great step towards securing aërial effect—one of the greatest charms a picture can possess. The gradations in the appropriately tinted outline, materially assist in the realization of this effect.

If the subjèct be too large, or too small, for the operation of tracing, the outline must be copied on paper of the size required. This may be effected with accuracy, by dividing subject and copy into an equal number of squares, whereby the place of every object in the composition is readily given. The drawing may then be traced on the glass as an engraving.

TO SECURE THE OUTLINE.

The outline is preserved by being covered with another thin piece of glass, of which the rougher side is turned inwards. The edges of the two pieces are then firmly attached by a slip of strong gummed paper.

The picture may be painted upon either of these two pieces of glass; but it will be found more convenient to work upon the blank glass, for the sake of preserving the outline, and the facility of correction. This, indeed, becomes a necessity in subjects where the slightest inaccuracy in drawing would tell. In laying the colour, it will be necessary to observe that the tint comes up to, and covers the outline, since the eye might be misled by the interposition of a thickness of glass. The most minute space left uncoloured, will show very distinctly when the picture is magnified by the lens of the lantern. Blanks occur only where it is intended to represent white.

THE PAINTING.

For the purpose of elucidating the method of painting in the clearest and simplest manner, we will suppose that we are conducting the reader through the detail of the various parts of the process necessary for painting the subject shewn in the small design given in the frontispiece. This subject is only proposed for the purpose of allowing of a clearer description, by means of reference, to the different portions of the work.

We trust the reader, remembering the disadvantages of describing a process of colouring, without having a coloured illustration for reference, will pardon us if it appears to him that we dwell with apparently unnecessary minuteness upon the different portions of our description. He will observe that it is not so much intended to refer to a particular design, as to explain generally the method of executing transparent painting.

Place the outline upon the easel, adjust it to the most convenient height for working, and place the engraving where it can be readily, and without inconvenience, consulted. The glass, preparatory to being painted on, must be scrupulously clean, having received a final polish from an old silk handkerchief.

As in painting generally, so in painting on glass, the sky and distance must first be worked out. The palette for these will be set with gall-stone, rose madder, and Prussian blue. The management of colour on the palette, is a matter of discretion and habit with the painter; but, generally, the light and warm colours are placed near where the thumb passes through the palette, and hence the darker and cold colours are continued round the rim. Thus the gall-stone would be placed nearest the thumb, then the rose madder, and, lastly, the blue.

In this landscape subject, the sky and distance will be generally gray, and the lights in the sky of a pearly white.

Take the largest brush, and with a tint made of rose madder, and a very little Prussian blue, begin at the top of the picture, and lay the tint from left to right over the entire space to be occupied by the sky, making the tint lighter as approaching the horizon. This first tint is for the pearly lights, and it must, therefore, be very soft, even in the deepest part, while at the horizon it should be almost white. The darker clouds are painted with a tint made of Prussian blue, rose madder, and a little gall-stone, carefully observing form and character, and avoiding any degree of hardness at the edges. When marking out the forms with this tint, the half lights should be left, again worked on, and subsequently retouched with a tint of the same colours, but somewhat lighter, and having more gall-stone in it.

The edges and extremities of the clouds and oppositions in the sky, will appear hard; therefore, to blend and soften the work, the dabber will be necessary. To prepare the sky for blending and softening, it must be breathed upon; after which it may be carefully and gently worked over, and softened with the largest dabber. It will be found that by this operation extremely minute particles of colour will be removed, leaving on the places worked upon, the appearance of a minute and extremely fine stipple.

The breathing must be very slight, for if the colour be too much moistened, it will be removed by the dabber, and will be carried into the next tint. It is bad enough when the tint is vitiated, but worse when spots occur by light being carried into dark, or *vice versa.* This operation must be proceeded with gradually—that is, as well as it can be effected on parts which are uniform in tone; and after each successive part has been worked, the dabber must be cleaned and dried, otherwise it will remove the colour. Thus the entire sky must be blended and softened, but not overwrought insomuch as to destroy the forms of the clouds. The process must be carried out gradually, lest mischief occur from attempting too much at once.

The danger to be apprehended in working the dabber in painting on glass, is the same as that liable to occur from excessive use of the softener in oil-painting. The forms are likely to become subdued, and the entire sky flattened. It is, therefore, necessary to perfectly preserve the roundness and substance of the forms, each of which has its own particular lights and shades.

In the subject we are now considering, the distance occupies but a small portion of the picture, being constituted only of the two mountains on the extreme right. The more remote is nearly of the same tint as the sky which hangs over it. In consequence of its being so distant, there is an absence of all detail, and it is represented by a tint almost flat. The summit of the other mountain is partially obscured by the heavy cloud over it; but, approaching the middle distance, it increases in intensity, until it corresponds in tone with the dark part of the cloud above it. In painting this, the light must be left, and worked afterwards to its proper tint.

Begin with the top of the mountain, using rose madder, and a small portion of Prussian blue, adding more blue as approaching the middle distance, the lights of which will be painted with rose madder and gall-stone, broken to a warm gray with blue; then blend the whole with a small dabber, every care being taken to preserve the forms. The size of the dabber must be in proportion to that of the passage to be worked. The middle distance is the most difficult part of the picture. It is composed of the mountain in the centre, the hill to the left, and the flat ground to the right. The first is a mass of light, and half light; the second, of half shade, and shade; and the third, of half shade, and shade, in a deeper degree.

Place upon the palette, and in the following order,—gall-stone, madder brown, Vandyke brown, rose madder, crimson lake, Prussian blue, and indigo; and with the largest brush commence at the top of the mountain in the centre, and wash in the forms according to the markings with gall-stone, rose madder, and Prussian blue, working with this tint to a little below the top of the ruined castle; after which, add crimson lake by degrees, and in very small quantities: and with this, all the dark parts may be laid in, but only in very warm grays, even where most positive in colour.

The lights upon the top of the mountain, must be worked with gall-stone, and a little rose madder; then add a small portion of blue, so as to make a grayish green, with which colour the lights near the base of the mountain, and the rise on the extreme right. The dark parts of the hill, on the left of the castle, are to be made out with a tint of madder brown and Prussian blue. To this tint add rose madder, for the dark markings of the hill on the right of the castle, and leave them softer and softer, as approaching the base of the centre of the mountain, so that the tints may blend, and be lost in each other.

The lighter parts of the hill will be coloured with gall-stone and brown madder; with the addition of a little rose madder, as approaching the most distant part. With Vandyke brown, and indigo, make out the darkest markings of the flat ground, and add a small portion of crimson lake, as proceeding to the extreme right. The line of foliage, which breaks the centre mountain from the flat ground, must be laid in with gall-stone and madder, leaving a few points of light, tinted with gall-stone only, to represent the light glancing upon the trees.

The half shades of the flat ground will be painted with rose madder, and madder brown, and the dabber must be freely used to soften every part. Those minor lights that it would be troublesome to leave, may be taken out with the point of a pen-knife, and afterwards retouched with the necessary tint. Instead of elaborately working up to the outlines of foreground objects, such as trees, castle, &c. it will be found more expeditious to cover the lines, and afterwards remove the superfluous colour.

THE FOREGROUND.

The painting of the foreground of our illustration is divided into two parts—the castle, the surrounding trees, the water, and reflections, forming the first; and the figures, boat, detailed mass of rock, sandy ground, loose stone, &c., the second.

In this part of the picture, the palette must be set with all the colours except black, which is only required when black spots or lines are to be expressed.

Begin with the most prominent object at the back of the foreground—that is, the castle—drawing in with brown madder, and rose madder, the numerous shadows. The wall on the left and the base of the tower, are shadowed by the clump of trees. The right of the tower is in shade, because the light comes from the left; and the body of the building is almost entirely shaded by the tower.

Having drawn in the shaded portions, as shown in the cut, proceed to colour the lights on the castle with burnt sienna and rose madder, adding a little Prussian blue, in order to imitate that clear gray always presented by worn stone. The markings of the ground on which the castle stands, may be made with a tint of rose madder and brown madder. The ground itself may be coloured on the left with brown madder and Prussian blue; on the right, work with the same tint, qualified with a little crimson lake, and in the centre with burnt sienna, rose madder, and gall-stone, for the lights, and rose madder, madder brown, and Prussian blue, for the half lights.

The house in the distance, may be tinted with rose madder, gall-stone, and brown madder; for the lights of the trees near it, gall-stone and madder brown will be the tint; and for the shades, intense blue, and Vandyke brown. The distant trees on the left of the castle, may be made out with madder brown and intense blue; and the same tint, with the addition of a little gamboge, will serve wherewith to work the lights. The nearer trees will be laid in with gall-stone and Prussian blue, and the lights tinted with gall-stone and madder brown. The shaded portions of the light tree near the tower, will be laid in with madder brown and gall-stone, but for the lights, gall-stone alone will be used. The stems of the trees must be of a warm gray, which will be represented with a tint made of either gall-stone, rose madder, and Prussian blue, or madder brown and indigo. In dealing with the lights in foliage, it will be more satisfactory, and certainly easier, to mass in the foliage with the brush, and then take out the lights with the point of a pen-knife.

Reflections in water are represented with the same tints as the objects by which they are cast, and they should, therefore, be painted with the same colours as the objects themselves, and at the same time. The forms of objects in reflection may be given very indefinitely, save when the water is very still, in which case the forms of the reflected objects will more nearly approach the degree of perfection with which they are represented in the substance. Those parts of the water which do not cast reflection, will be painted with tints corresponding in colour, but more gray in tone than those surrounding the reflected objects; and having effected this, the work will be brought down to the line of ground immediately bordering on the water, before touching which, blend and soften all that has not yet been touched with the dabber.

The foreground of the picture is generally flat, but slightly undulating to the right, where broken lines are obtained by means of grass. In this part many, indeed most, of the tints used in the other parts, are repeated. The greys of the summit, and of the centre of the mountain, are repeated on, and around, the mass of rock to the left, in which also occur tints of some of the dark parts of the hill.

The lights in the broken ground surrounding the castle, are introduced in a much broader mass round the boat and figures; and the yellows and greens of the foliage are repeated largely in the glass to the extreme right, and in a minor degree, by a few broken tones round the mass of rock.

The figures, boat, and dark markings of the rock, together with the loose stones scattered about, are left until the last, because with them rests, in a great degree, the force and toning of the entire picture.

As the composition abounds with tints allied to purple, if the upper part of the dress of the centre figure be painted of a decided and positive blue, this will have the effect of reducing the lower and broken purples to gray; and by colouring the jacket of the female figure a bright orange, a contrast will be obtained which will operate powerfully in promoting the effect of the picture. But in order that the contrast between those strongly coloured draperies may not be too violent, and seem artificial, they may be modified and harmonized by the jacket of the third figure being of a neutral orange; and if the skirt of the same dress be coloured crimson, it will serve to harmonize and contrast the green tints. Dark touches on the shaded side of the figures, and in the markings of the rock, will give them force and relief, and, at the same time, throw the other parts of the picture back. The mass of shade in the rock is repeated in a less degree in that of the boat; in order to prevent its appearing isolated, or of being placed there only for the sake of contrast. The loose stones are valuable for the same purpose; but they must, in order to secure variety, be of a colour much more gray than that of surrounding objects.

The foreground of a picture is indebted for some of its best effects to decision of execution, purity of colour and tone, force of light and shade, and careful detail.

Decision of execution, is a result of careful and observant practice; and decided opposition is obtained by the judicious contrast of tones and quantities. Purity, and force of colour, are obtained by the disposition of the more positive tints and colours in the foreground; a means whereby also all other tones are broken and subdued.

Light will of necessity be stronger in the foreground than in any other part of the composition, because the objects upon which it falls are in the nearest sites. The same rule applies to shade. Wherever, indeed, the highest lights occur, they are universally supported by the deepest shades.

Careful detail, in its strict sense, is a quality appertaining only to the immediate foreground; where the objects are supposed to lie so near the eye, that their structure and surfaces are plainly visible. By detail, is understood not only a realization of the forms of the nearest objects, by truthful drawing and observation of their light and shade; but also a description of their components, surfaces, and materials. Force, substance, reality, and detail, are primary qualities of foregrounds, inasmuch as they describe objects in immediate proximity, and serve to cause the retirement of the middle and remoter distances.

FINISHING.

In this stage, it will be necessary to reconsider every part of the picture; to soften, subdue, or enspirit, according to circumstances, those parts that may require retouching, with a view to harmony and general effect. Lamp-black may now be added to the palette, and employed wherever that colour may be deemed necessary. In the subject which we are treating, it is not necessary; but wherever it may be necessary to touch here and there with this material, for the sake of sharpness and decision, its use should be deferred until this stage; because, if employed earlier, it will probably mislead the student into blackening the tone of the whole work. All the edges reflecting light, such as those of the castle, the mass of rock, figures, boat, &c., nearest the eye, must be sharpened and brought up to their proper degree of brilliancy, and all the dark points should be reduced to a proper depth; in short, in this stage must be effected all that cannot be properly done at any earlier stage.

The picture having been finished according to the best taste and feeling of the painter, must be protected by having a piece of glass of the same as that on which it is painted, placed and fixed over it, in the manner already described, for the security of the outline; and in order to prevent injury from the contact of the glass laid over it, a narrow rim of thick paper should be interposed between the glasses. This may be attached, by means of paste or gum, to the exterior edge of the glass containing the picture, a space having been already provided for this, by the work not having been carried out to the extreme edge of the glass.

We may, if we please, execute the whole of the work on a single piece of glass. In this case, having perfected the outline, we secure it by passing over the face of the glass a thin wash of lac varnish, or a varnish made of Canada balsam, much diluted with turpentine.

If the lac varnish require to be diluted, spirits of wine must be employed for the purpose; and the varnishing should be performed before a fire, when it dries immediately, and we proceed to paint on the same surface. The varnish may be employed at the various stages, and at the finish of the work, to fix the colours. It is, however, advisable always to secure the finished painting by placing a glass before it.

Designs for the magic-lantern have hitherto been executed chiefly in oil colours, but for dissolving views, they are not equal in brilliancy and effect to those painted in water colours, by the manner already described.

The method of painting transparency designs on glass with oil colours, is in almost all respects similar to that we have given for the use of water colours, the principal difference being in the materials only.

The same description of brushes, dabbers, &c., are used, and the same list of colours are employed in oil, as in water colour painting, excepting that Italian pink is to be preferred to gamboge, as being richer, and more transparent.

The oil colours employed, are those commonly sold in tubes. The vehicles used to temper the oil colours, and bring them to a proper strength and consistency for use are mastic varnish, diluted with turpentine, and japanners' gold size, also diluted with turpentine.

The latter is chiefly employed for those colours which do not dry well, such as madder lake, and Italian pink.

For blues, and the range of gray tones, the colour of japanners' gold size is objectionable; for these, the diluted mastic varnish is therefore used.

One of the most difficult things in transparent glass painting, is to secure a flat, clear, equal tint of blue for skies, &c., and this part of the work is of the utmost importance.

To obtain this desirable effect, the tint is laid on the glass as evenly as possible, and afterwards equalized by a careful application of the brush dabber.

Some painters use the point of the fore-finger as a dabber, and when used with dexterity, it is very effective.

A serviceable dabber may also be formed by tying a little cotton wool in a piece of soft white kid. All these dabbers may in turn be employed with advantage.

Before this flat tint is permitted to dry, we take out the necessary lights, as those of the clouds. By taking them out while the colour is wet, we are enabled to soften the edges if necessary, or we may leave them clear and sharp. Leather, or paper, rolled in the form of a stump, is useful in taking out lights.

In all other respects, the instructions already given for the use of water colours, applies to paintings in oil colours, and will be found sufficient to guide the learner in their use.

Water, and oil colours, may sometimes be both employed, with excellent effect, in the same painting, each having distinct qualities which, in some subjects, may be advantageously combined.

The water colours are delicate, clear, and brilliant in their effects, while the solidity, and rich fullness of tone attainable by the use of oil colours, are very eligible for particular objects, as in parts of foregrounds and figures, where fulness of tone, and strong relief are required.

PART III.

MECHANICAL SLIDES.

By means of mechanical slides, many curious and interesting effects may be produced. Two kinds are shown in the accompanying cuts.

FIG. 5.

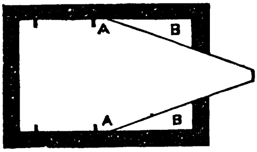


FIG. 6.

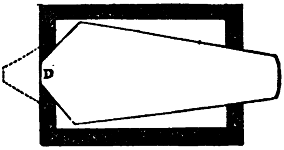
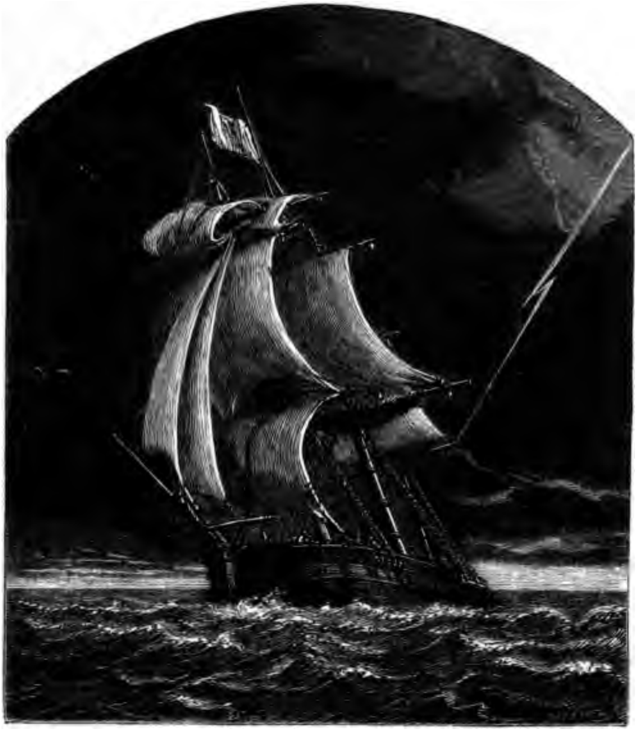


Figure 5 consists of a framed piece of glass, with two supplementary pieces, one on each side moveable, until the points A come into contact with the points B. The shifting pieces are kept in the frame by the brass pins, which allow them to work easily back and forward.

This kind of slide is useful in the production of different effects. Suppose, for instance, a ship struck with lightning is to be represented, the subject must be painted on the framed glass shown in Figure 7.

FIG. 7.



On one of the moveable pieces must be painted tints to hide the flash of lightning; and the high lights on the vessel and the sea.

These tints will represent, as to forms, a discretional composition; but this must correspond in feeling with the description of a storm. In order to coincide exactly with those parts of the picture, which it is intended to shut out, or cover; the painting must be executed upon the moveable piece of glass, so that when pushed into the frame as far as it will go; it may shut out and cover very accurately, those parts of the picture which must necessarily be exclūded for the sake of the desired effect.

Upon the other moveable piece of glass, the upper spars and rigging of the vessel must be painted. When in use this must be drawn out until the representation is stopped out by the pōints coming in contact with those of the frame; broken spars, and torn rigging, being represented as if falling over the side of the ship.

When the first moveable piece is rapidly shifted, the effect of lightning illuminating the vessel, and the water, will be rendered with great truth. Repeat this several times, and shift the second glass, not backwards and forwards like the first, but simply pull it out to its full extent, and it will appear as if the vessel were struck by lightning, and the spars and rigging were falling overboard. By continuing the movement of the first piece, the lightning may be kept playing round the devoted ship, as long as the picture is exhibited.

This kind of slide is also used for grotesque and comic effects, as shown in these examples.

Both of these pictures may be painted entirely upon the framed pieces of glass; while the shifting pieces must be painted with lamp-black, so as to shut out those parts which it is desirable to exclude.

In reference to the two combatants, Figure 8, the first piece of glass, when pulled out to its full extent, must hide the lower arms, and the swords, and when pushed into the frame, must hide the upper arms.

The second piece, when closed or pushed into the frame should hide the centre arm and sword of the figure to the right, and the right arm and sword above the figure on the left, and when pulled out to its full extent, must hide all that it is not necessary to express the idea of one figure having given, and of the other having received, a severe wound.

By the movement of the first piece of glass backwards and forwards, the action of fencing is described; and, by pulling out the second, a fatal termination to the fight is shown.

In the next subject, Figure 9, the action of the boy beating the donkey, and of the donkey kicking, are given by one moveable piece of glass; and the appearance of the boy being thrown, is given by the other.

FIG. 8.

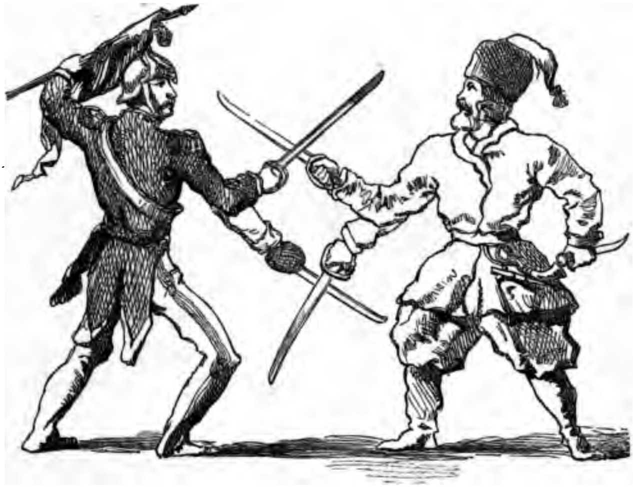
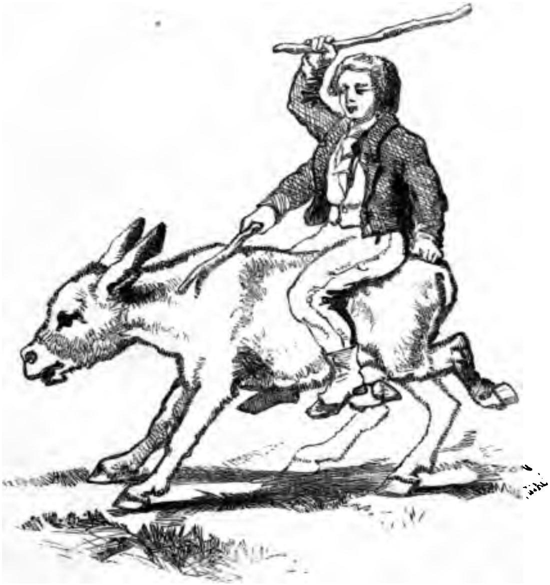


FIG. 9.



With this useful slide, and a little ingenuity and taste on the part of the artist, many agreeable and amusing subjects may be produced.

In all cases where the backgrounds are similar to those of the pictures we are treating, they must be black; and as they cannot be protected by additional pieces of glass, they must be varnished with mastic varnish, diluted with turpentine—equal parts of each; and in order to prevent the paintings being worn by the action of the moveable pieces of glass, strips of thick paper must be pasted between them, to prevent contact, as in the manner already recommended for the protection of the landscape subject.

When parts of the subject are painted upon the moveable pieces of glass, as in the representation of the effect of lightning, the shifting pieces, when finished, should change places, so as to bring the painted parts inside.

Figure 6 is a framed piece of glass, having on one side another piece moveable on the same principle as in Figure 5, but capable of being shifted backward and forward only a short distance. On the other side, then, must be also a piece of glass of the same shape as that in the illustration, and working upon a rivet at the point D.

This kind of slide is used for the representation of the heads of men or animals, and by such means, the appearance of vitality and movement is given to the eyes and mouths. Upon the first piece of glass, the pupils of the eyes are painted, and upon the second, the lower jaw is drawn; and this must always be dark, so as to hide the colouring of the interior of the mouth.

FIG. 10.

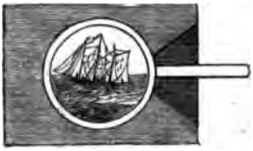


FIG. 11.

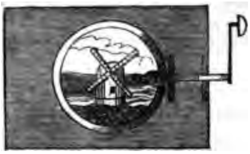


Figure 10 is a circular piece of glass, framed in brass, with another piece of glass, and having a handle. The second is moveable to the extent of the dark section, which represents a space cut out of the frame, to allow the handle to work up and down.

This slide is intended to describe the rolling movement of a ship on the sea. Upon the first space, will be painted the sky and the light parts of the sea; and upon the glass in the brass frame, the ship, and the dark markings or shading of the long waves, must be represented.

The centre of the hull of the vessel, must be drawn in the centre of the glass, if the ship be advancing towards, or receding from the spectator, otherwise the rolling will be too violent.

In order to give the representation of a ship moving in her course, there must be other objects in the composition, or, at least, various forms which she must be made to appear as if passing by. To secure a successful representation of this, the ship and the waves, in the nearest section of the picture, must be painted in the same manner; and if the vessel be proceeding along a shore, or up a river, a long slide, containing a view of the shore, and the land objects, must be moved along very gently behind the ship, which, if carefully managed, will communicate to the ship the appearance of movement.

To perfect this effect, the two parts of the composition must be opposed to each other on the same principle as that already described—that is, the stronger tints must supersede the lighter. Thus the landscape, or shore picture, must be painted in tones easily subdued by those of the ship, which must be so deeply tinted as to cover the forms that pass behind it.

Figure 11 is a circular piece of glass framed, and having a second piece in a cogged frame, which is made to revolve by means of a rack handle. This form is necessary for astronomical slides, by which means are shown the revolution of the planets round the sun, that of the moon round the earth, or the passage of a ship round the globe, thus exhibiting the rotundity of the earth.

Slides of this construction are necessary for all effects in which revolving movement is to be described, as the sails of a windmill, or any similar action; but great caution must be exercised that the centre of the revolving action be precisely the centre of the circular glass—that is, if a windmill be represented, that the centre from which the sails are carried out, coincide with the centre of the glass, in order to secure a true revolution; and the utmost care must also be employed in the adjustment of the two glasses—that is, of that on which the motion is described, and that on which the stationary part of the picture is painted.

FIG. 12.

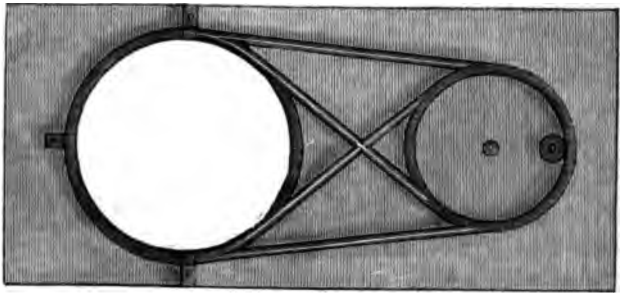
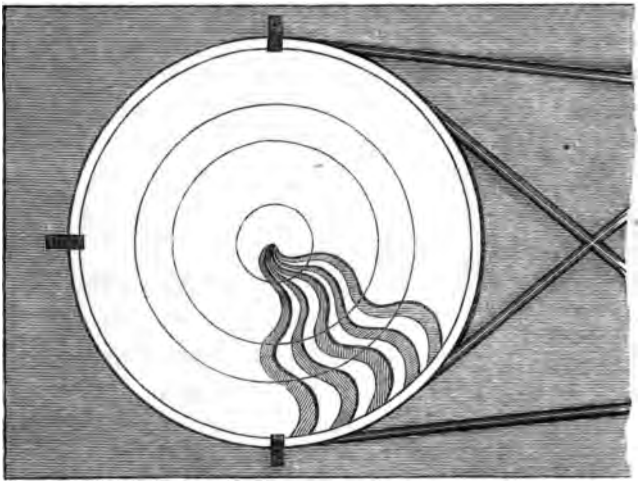


Figure 12 is constructed of two circular pieces of glass in brass frames, and having groves round them. These are made to revolve in reverse directions, and simultaneously, as shown in the illustration. This kind of frame is used for chromatrope effects, which are produced by painting variously tinted rays from the centre to the circumference of the circles, and, of course, graduating in breadth as proceeding to the extremities of the circle, as shown in the cut below.

FIG. 13.



If two circles be painted alike with eccentric rays of colour, showing only primary colours in their prismatic order, and leaving a small ray of white between each tint used, they will, when turned face to face, and made to revolve reversely, throw out the most beautiful and brilliant hues. According to the way in which they are made to turn, they expand or contract.

Such experiments are not only extremely pleasing, but also of great utility, as suggesting for manufacturing designs, some of the most beautiful combinations of colour.

Chromatrope effects are of inexhaustible variety. It is only necessary here to describe the method of painting, and the mechanical appliances for adapting the pictures and figures. The taste and ingenuity of the operator, will devise a thousand different designs for the display of the most beautiful chromatic effects.

In conclusion, it may be well to offer a few general remarks; attention to which will, in some degree, serve the student in the place of experience.

It will soon be understood that agreeable pictures can only result from a judicious choice of subject; and that much of the perfection of execution, depends upon method and arrangement at every stage of progress.

If glass painting, according to these instructions, be the student's initiatory essay in art; it is indispensable that he select, as a beginner, a subject of the most simple kind. As experience is acquired, more difficult subjects may be attempted.

With respect to the palette, economy and perfect cleanliness should be observed. The most available arrangement of colour, is to place the lightest near the thumb, and within each colour should be placed those tints which are respectively formed from them. This will contribute much to make the student acquainted with the tints and colours in their relations and infinite variety.

In every department of art, it is most valuable to know when a picture may be considered complete. Unless a picture can be obviously improved, it will be advisable to let well alone. After a composition has been carefully and judiciously finished, it is idle to try experiments, for these only end in disappointment. Inasmuch, however, as experience will be gathered from each picture, every effort should be exerted to make every successive work better than the preceding.

THE END.

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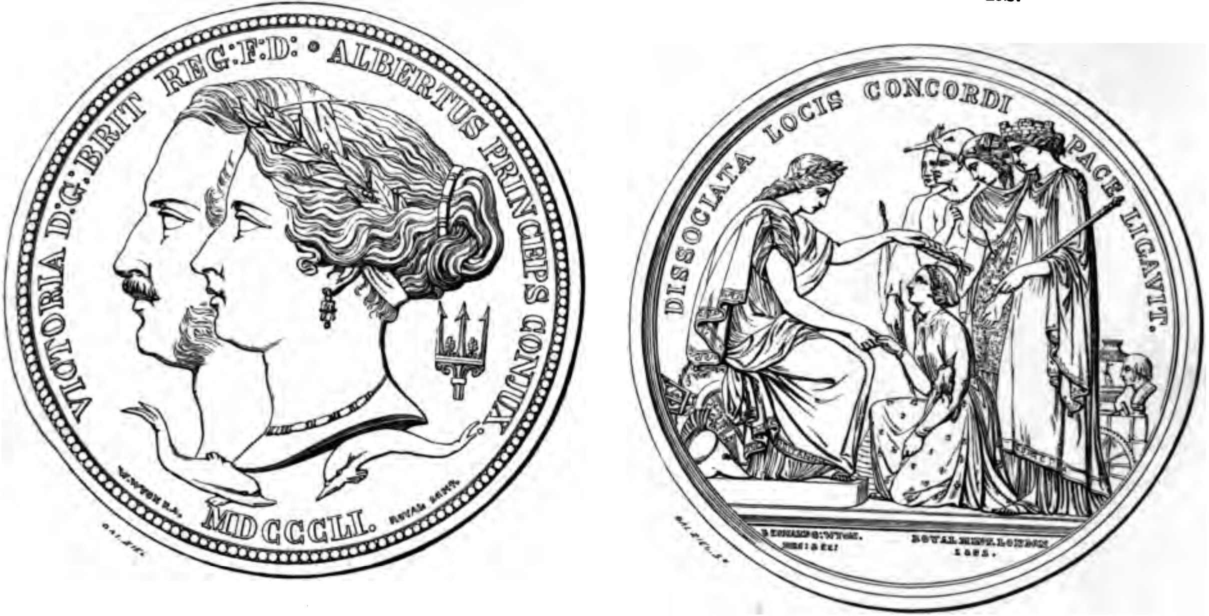
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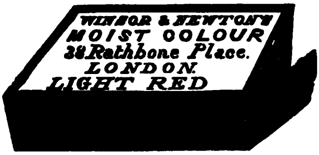

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Lamp Black
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Neutral Tint
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Olive Green
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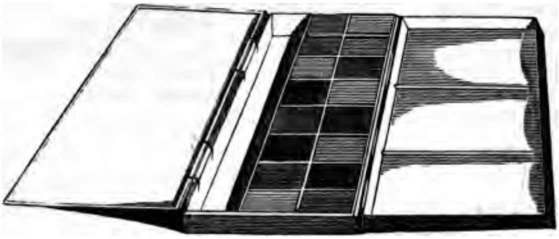

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12 Cake Box, No. 1.—(Landscape.)
containing Brown Pink, Vandyke Brown, Indigo, Neutral Tint, Cobalt, Crimson Lake, Indian Red, Vermillion, Burnt Sienna, Light Red, Yellow Ochre, and Gamboge.
Price 18*s*. 6*d*.

Ditto, No. 2.—(Landscape, Figures, &c.)
containing Gamboge, Indian Yellow, Raw Sienna, Burnt Sienna, Light Red, Scarlet Vermillion, Rose Madder, Purple Lake, Vandyke Brown, Brown Pink, Indigo, and French Blue.
Price £1. 2*s*. 6*d*.

14 Cake Box, No. 1.—(Landscape.)
containing Cobalt, Indigo, Neutral Tint, Emerald Green, Brown Pink, Vandyke Brown, Madder Brown, Crimson Lake, Indian Red, Light Red, Burnt Sienna, Indian Yellow, Yellow Ochre, and Gamboge.
Price £1. 2*s*.

14 Cake Box, No. 2.—(Landscape, Figures, &c.) containing Indigo, French Blue, Neutral Tint, Emerald Green, Olive Green, Vandyke Brown, Madder Brown, Purple Lake, Rose Madder, Scarlet Vermillion, Light Red, Indian Yellow, Yellow Ochre, and Gamboge.

Price £1. 5*s*. 6*d*.

16 Cake Box, No. 1.—(Landscape, Figures, &c.) containing Lemon Yellow, Gamboge, Indian Yellow, Yellow Ochre, Burnt Sienna, Light Red, Vermillion, Rose Madder, Purple Lake, Madder Brown, Vandyke Brown, Olive Green, Emerald Green, Payne's Grey, Indigo, and Cobalt.

Price £1. 8*s*. 6*d*.

Ditto, No. 2.—(Figures, Flowers, Landscape, &c.) containing Gamboge, Indian Yellow, Cadmium, Burnt Sienna, Venetian Red, Cobalt, Vermillion, Purple Madder, Brown Madder, Rose Madder, Carmine, Vandyke Brown, Olive Green, Emerald Green, Indigo, and French Blue.

Price £2.

18 Cake Box.—(Landscape, Figures, Flowers, &c.) containing Lemon Yellow, Indian Yellow, Gamboge, Yellow Ochre, Burnt Sienna, Light Red, Vermillion, Rose Madder, Purple Lake, Madder Brown, Olive Green, Vandyke Brown, Emerald Green, Payne's Grey, Indigo, Cobalt, Indian Red, and French Blue.

Price £1. 13*s*. 6*d*.

20 Cake Box.—(Landscape, Flowers, Figures, &c.) containing Lemon Yellow, Gamboge, Indian Yellow, Yellow Ochre, Burnt Sienna, Vermillion, Light Red, Indian Red, Rose Madder, Carmine, Purple Madder, Vandyke Brown, Sepia, Olive Green, Lamp Black, Emerald Green, Cobalt, Indigo, French Blue, and Cadmium Yellow.

Price £2. 7*s*.

22 Cake Box.—(Complete for Landscape, Flowers, Figures, &c.) containing Lemon Yellow, Gamboge, Indian Yellow, Yellow Ochre, Vermillion, Light Red, Indian Red, Rose Madder, Carmine, Purple Madder, Vandyke Brown, Sepia, Emerald Green, Indigo, French Blue, Cobalt, Burnt Sienna, Olive Green, Cadmium, Oxide of Chromium, Lamp Black, and Mars Orange.

Price £2. 15*s*. 6*d*.

24 Cake Box.—(Complete for Landscape, Flowers, Figures, &c.) containing Lemon Yellow, Gamboge, Indian Yellow, Yellow Ochre, Vermillion, Light Red, Indian Red, Rose Madder, Carmine, Purple Madder, Vandyke Brown, Sepia, Emerald Green, Indigo, French Blue, Cobalt, Burnt Sienna, Olive Green, Cadmium Yellow, Oxide of Chromium, Lamp Black, Mars Orange, Terre Verte, and Ultramarine Ash.

Price £3. 3*s*.

30 Cake Box.—(Complete for all purposes.) containing Lemon Yellow, Gamboge, Indian Yellow, Cadmium Yellow, Mars Yellow, Yellow Ochre, Burnt Sienna, Mars Orange, Light Red, Indian Red, Purple Lake, Rose Madder, Scarlet Vermillion, Carmine, Purple Madder, Cobalt, French Blue, Smalt, Indigo, Ultramarine Ash, Neutral Tint, Brown Madder, Brown Pink, Olive Green, Emerald Green, Terre Verte, Vandyke Brown, Green Oxide of Chromium, Ivory Black, Sepia.

Price £3 16*s*.

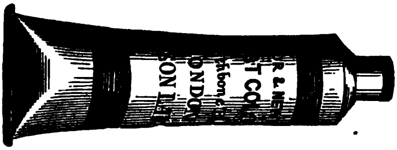
* * *

WATER BOTTLES, WITH CUPS,

FOR ATTACHING TO THE MOIST COLOUR BOXES WHEN SKETCHING.

	PRICE		
	£	*s.*	*d.*
Japanned Water Bottle and Cups	0	2	6
Ditto ditto polished tin inside	0	3	0
Ditto ditto larger ditto	0	3	6
Japanned Water Bottle, plated with silver inside, small size	0	4	6
Ditto ditto ditto middle size . .	0	5	0
Ditto ditto ditto large size . . .	0	7	0

MOIST WATER COLOURS
IN PATENT COLLAPSIBLE TUBES.



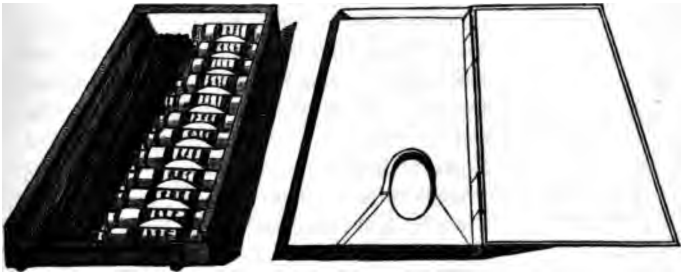
A new preparation of Moist Water Colours, particularly adapted for large works, as any quantity of colour can be immediately obtained, thus affording additional facilities for rapidity and increased power; these colours present a range of pigments, which, in brilliancy and similarity of manipulation, much resemble Oil Colours.

The list of Colours and Prices are the same as the Moist Colours in Pans.

(See Pages 4 and 5.)

* * *

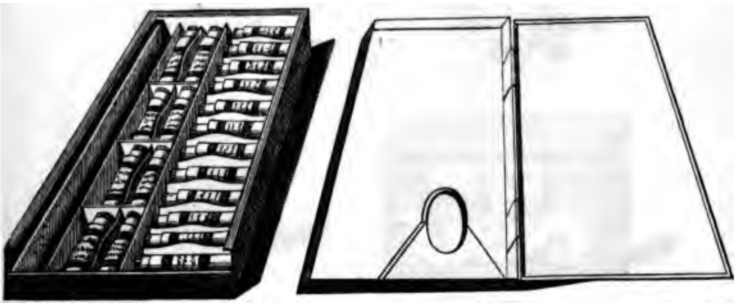
PORTABLE JAPAN TUBE BOXES.



	PRICE £	s.	d.
12 TUBE JAPAN BOX, WITH FOLDING PALETTE, containing Gamboge, Yellow Ochre, Naples Yellow, Burnt Sienna, Light Red, Indian Red, Crimson Lake, Cobalt, Indigo, Vandyke Brown, Brown Pink, Neutral Tint . .	1	1	0
15 TUBE JAPAN BOX, WITH FOLDING PALETTE, containing Chinese White, Gamboge, Indian Yellow, Yellow Ochre, Burnt Sienna, Vermillion, Light Red, Indian Red, *Crimson Lake,* Brown Madder, Cobalt, Indigo, Vandyke *Brown, Brown Pink,* Neutral Tint	1	6	6

MOIST WATER COLOURS IN PATENT COLLAPSIBLE TUBES.

(CONTINUED.)



	PRICE		
	£	s.	d.
20 TUBE JAPAN BOX, WITH FOLDING PALETTE, containing Chinese White, Cadmium Yellow, Gamboge, Yellow Ochre, Burnt Sienna, Vermillion, Light Red, Indian Red, Crimson Lake, Rose Madder, Brown Madder, Cobalt, Indigo, Prussian Blue, Neutral Tint, Vandyke Brown, Sepia, Brown Pink, Terre Verte, Lamp Black	1	18	6
24 TUBE JAPAN BOX, WITH FOLDING PALETTE, containing Chinese White, Cadmium Yellow, Gamboge, Indian Yellow, Naples Yellow, Yellow Ochre, Burnt Sienna, Vermillion, Light Red, Indian Red, Crimson Lake, Rose Madder, Brown Madder, Cobalt, Indigo, Prussian Blue, Neutral Tint, Vandyke Brown, Sepia, Burnt Umber, Brown Pink, Emerald Green, Terre Verte, Lamp Black . .	2	5	0
30 TUBE JAPAN BOX AND FOLDING PALETTE, fitted with complete set of Sable Brushes, and containing Japan plated Water Bottle, Bottle Chinese White, Ox Gall, Indelible Brown Ink and the following colours: Lemon Yellow, Gamboge, Indian Yellow, Cadmium Yellow, Mars Yellow, Yellow Ochre, Burnt Sienna, Italian Pink, Light Red, Indian Red, Crimson Lake, Purple Lake, Rose Madder, Carmine, Scarlet Vermillion Purple Madder, Cobalt, French Blue, Prussian Blue, Indigo, Neutral Tint, Brown Madder, Brown Pink, Olive Green, Emerald Green, Terre Verte, Green Oxide of Chromium, Sepia, Vandyke Brown, Ivory Black	5	10	0

WATER COLOURS.

CAKES AND HALF CAKES.

PRICE.

WHOLE CAKES.	HALF CAKES.
1s. Each.	6d. Each.

WHOLE CAKE.

HALF CAKE.

- Antwerp Blue
- Bistre
- Burnt Sienna
- Brown Pink
- Blue Black
- British Ink
- Brown Ochre
- Burnt Roman Ochre
- Burnt Umber
- Chrome Yellow, 1, 2, and 3
- Cologne Earth
- Dragon's Blood
- Emerald Green
- French Green
- Flake White
- Gamboge
- Green Bice
- Hooker's Green, No. 1
- Hooker's Green, No. 2
- Indigo
- Indian Red
- Italian Pink
- *Ivory Black*
- *King's Yellow*

- Lamp Black
- Light Red
- Neutral Tint
- Naples Yellow
- New Blue
- Olive Green
- Orpiment
- Prussian Blue
- Prussian Green
- Payne's Grey
- Purple Brown
- Raw Sienna
- Raw Umber
- Roman Ochre
- Red Lead
- Red Ochre
- Red Chalk
- Sap Green
- Terre Verte
- Vandyke Brown
- Venetian Red
- Vermillion
- Verdigris
- Yellow Ochre
- Yellow Lake

WATER COLOURS.

(CONTINUED.)

WHOLE CAKES, 1s. 6d. AND HALF CAKES, 9d.

Sepia
Warm Sepia
Roman Sepia
Brown Madder
Constant White
Chinese White
Indian Yellow
Mars Brown
Rubens' Madder
Mars Yellow
Crimson Lake
Scarlet Lake
Purple Lake
Black Lead
Scarlet Vermillion
Chalon's Brown
Penley's Neutral Orange
Citron Yellow

WHOLE CAKES, 2s. AND HALF CAKES, 1s.

Cobalt Blue
Violet Carmine

WHOLE CAKES, 3s. AND HALF CAKES, 1s. 6d.

Green Oxide of Chromium
Lemon Yellow
French Blue
Indian Purple
Pink Madder
Rose Madder
Intense Blue

WHOLE CAKES, 5s. AND HALF CAKES, 2s. 6d.

Mars Orange
Pure Scarlet
Burnt Carmine
Smalt
Purple Madder
Ultramarine Ash
Carmine
Gallstone
Cadmium Yellow
Orange Vermillion

WHOLE CAKES, 21s. AND HALF CAKES, 10s. 6d. QUARTER CAKES 5s. 6d.

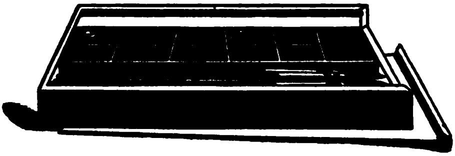
Genuine Ultramarine.

WINSOR AND NEWTON'S

WATER COLOUR BOXES FITTED.

WHOLE CAKE BOXES.

BOXES WITH SLIDE TOPS.

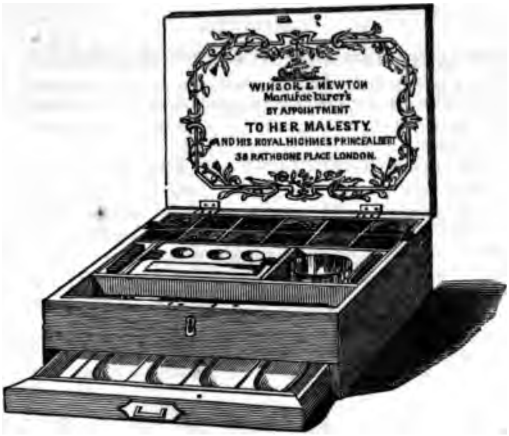


			PRICE £	s.	d.
MAHOGANY SLIDE TOP BOX,		6 colours and brushes	0	6	0
Ditto	ditto	12 ditto	0	12	0
Ditto	ditto	18 ditto	0	18	0
Ditto	ditto	24 ditto	1	5	0

LOCK BOXES.

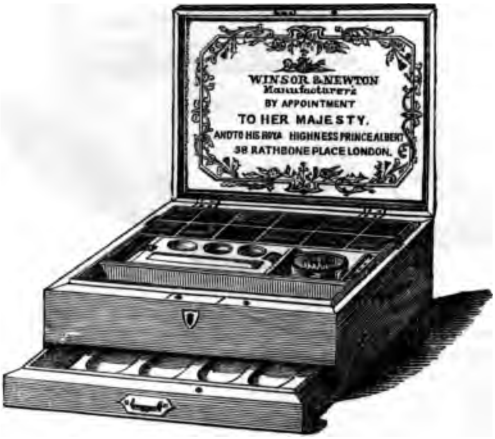
	£	s.	d.
LOCK BOX, MAHOGANY, as illustrated, with 12 colours, brushes, and pencils	0	14	0
Ditto ditto 18 colours ditto	1	1	0
Lock and Drawer Box, Mahogany, with 12 colours, *containing saucers, brushes*, pencils, &c.	0	16	0
Ditto *ditto* 18 colours ditto	1	1	0

MAHOGANY COMPLETE BOXES.


WINSOR & NEWTON
Manufacturers
BY APPOINTMENT
TO HER MAJESTY
AND HIS ROYAL HIGHNESS PRINCE ALBERT
38 RATHBONE PLACE LONDON.

	£	s.	d.
MAHOGANY COMPLETE BOX, as illustrated, French polished, 12 cakes, ink-slab, water-glass, brushes, &c. . .	1	1	0
Ditto ditto 18 colours . . .	1	10	0
Ditto ditto 24 colours . . .	2	2	0

MAHOGANY AND ROSEWOOD CADDY LID BOXES.


WINSOR & NEWTON
Manufacturers
BY APPOINTMENT
TO HER MAJESTY.
AND TO HIS ROYAL HIGHNESS PRINCE ALBERT
38 RATHBONE PLACE LONDON.

	£	s.	d.
SUPERIOR CADDY LID MAHOGANY BOX, as illustrated, French polished, with 12 cakes, (including Cobalt, Crimson Lake, and Brown Madder) ink slab, cut water glass, brushes *and pencils*	1	10	0

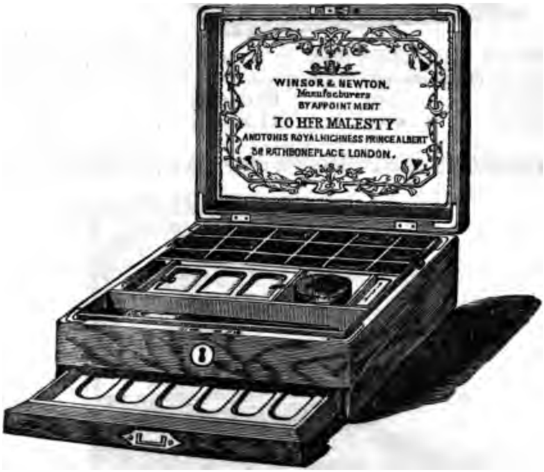
CADDY LID BOXES.

(CONTINUED.)

	PRICE £	s.	d.
SUPERIOR CADDY LID MAHOGANY BOX, with 18 colours (including Crimson Lake, Sepia, Cobalt, and Brown Madder)	2	2	0
Ditto ditto with 24 colours (including Chinese White, Rose Madder, Indian Yellow, Crimson Lake, Sepia, Cobalt, and Brown Madder)	3	3	0
HANDSOME ROSEWOOD CADDY LID BOX, with 12 colours (including Crimson Lake, Brown Madder, and Cobalt), fitted very complete, with cut water-glass, ink-slab, sable brushes, best gilt Indian ink, ivory pencil rest, &c. &c. .	2	5	0
Ditto ditto with 18 colours, fitted as above . . .	3	3	0
Ditto ditto with 24 colours, fitted as above . . .	4	4	0

HANDSOME SPANISH MAHOGANY BOXES.

WITH CADDY LIDS, BRASS-BOUND, &c.


WINSOR & NEWTON.
Manufacturers
BY APPOINTMENT
TO HER MAJESTY
AND TO HIS ROYAL HIGHNESS PRINCE ALBERT
38 RATHBONE PLACE LONDON.

	£	s.	d.
HANDSOME SPANISH MAHOGANY CADDY LID BOX, Best make, Brass-bound, as illustrated, with 12 colours, finest sable brushes, and fitted very completely	3	0	0
Ditto ditto ditto with 18 colours	4	4	0
Ditto ditto ditto with 24 colours	5	15	0
Ditto ditto ditto with 36 colours	8	10	0

Water Colour Boxes, of the finest workmanship, manufactured of the best Spanish Mahogany, or other woods, brass-bound, &c., variously fitted, with every requisite for Miniature, Figure, Landscape Painting, Engineering, &c. &c., made to order.

PERMANENT CHINESE WHITE.

Price 1s. per Bottle.

A
PREPARATION OF
WHITE OXIDE
OF ZINC,

THE MOST ELIGIBLE
WHITE PIGMENT
FOR WATER COLOUR
PAINTERS.

PREPARED ONLY BY WINSOR AND NEWTON.

The White Oxide of Zinc is pronounced by the highest chemical authorities to be one of the most unchangeable substances in nature; neither impure air, or the most powerful re-agents, affect its whiteness; it is not injured by, nor does it injure, any known pigments.

It has long been pointed out by chemists as a most desirable substance for the Artist's use, provided sufficient body could be imparted to it; but until lately the want of this necessary quality rendered it unavailable. In Winsor and Newton's preparation, termed Chinese White, this desideratum has been attained. The Chinese White, by combining body and permanency, is rendered far superior to those whites known as "Constant" or as "Permanent" Whites; and not having their clogging or pasty qualities, it works and washes with freedom.

The great body it possesses gives it the property of drying on paper of the same tone as it appears when first laid on, and thus, when used, either alone or in compound tints, it does not deceive the Artist like other whites, by drying up three or four tones higher than when wet.

The Chinese White is peculiarly available in mixing with any of the Water Colours in use, and particularly with the Moist Colours, thereby forming at pleasure an extensive range of body colours of a very superior kind.

Extracts from Mr. J. D. Harding's "Principles and Practice of Art."

"When the Oxide of Zinc, which is prepared by Winsor and Newton under the name of 'Chinese White,' was first put into my hands, some years ago, I applied to one of my friends, whose name as a chemist and philosopher is amongst the most distinguished in our country, to analyze it for me, and to tell me if I might rely on its durability; the reply was, that if it would in all other respects answer the purposes I required of it, I had nothing to fear on account of its durability."

"This is an invaluable pigment." "It is hardly possible to overrate the value of 'Opaque White' in Water Colours when judiciously used."

CUMBERLAND LEAD DRAWING PENCILS,

MANUFACTURED BY

WINSOR AND NEWTON,

AT

"THE NORTH LONDON COLOUR WORKS,"

KENTISH TOWN.

WINSOR and NEWTON solicit the especial attention of Amateurs, Artists, Architects, Engineers, Surveyors, &c., to their Drawing Pencils, which are manufactured of the purest Cumberland Lead, warranted to be perfectly free from grit.

These Pencils are unrivalled for depth, uniformity, richness of colour, firmness, and delicacy of tint; they are remarkable for the varieties of hardness and evenness of texture, their ready and complete erasure, and the truth and certainty to which they are made to answer to the degree or letter marked on them, from the HHHH. Pencil for Architect or Wood Engraver's outline, to the BBBB. for the broadest and deepest tones required in Pencil-Drawing.

H.	Moderately hard (used for light Sketching)	Price 6d. each.
HH.	A degree harder (for Outlines and fine Drawing)	
HHH.	Very hard (for Architectural Drawing)	
HHHH.	Extremely hard (for Engineering, or Drawing on Wood)	
FF.	Used for Light Shading	
F.	Fine Drawing (firm)	
HB.	Hard and Black (deeper shade than F.)	
B.	Black (for Shading, or for free Sketching)	
BB.	Softer ditto (for deep Shading)	
BBB.	*Intensely* Black (for extra deep Shading), broad lead,	1s. each.
BBBB.	*Same as BBB.*, with very broad lead,	1s. 6d. each.

IMPROVED LEAD PENCILS.

IN POLISHED WOOD.

Highly approved by Artists, and Professors of eminence.

		s.	d.	
H.	Hard for Sketching			3*d.* each.
HH.	Harder for Outlines			
HHH.	Very hard for Architects			
HHHH.	Extra hard for Wood Engravers			
F.	Firm for ordinary Drawing			
HB.	Hard and Black			
B.	Black for Shading			
BB.	Softer and very Black			
BBB.	Extra Thick Lead, soft, and very Black	0	6	each.
BBBB.	Broad Lead and very Black	0	8	,,
BBBBBB.	Very Broad Lead ditto	0	10	,,
10 B.	Ditto, ditto	1	0	,,

MR. J. D. HARDING'S DRAWING PENCILS.

MANUFACTURED BY WINSOR AND NEWTON,

WITH BROCKEDON'S PATENT PURE CUMBERLAND LEAD.

SELECTED BY MR. J. D. HARDING, AND STAMPED WITH HIS NAME.

Winsor and Newton beg respectfully to call the attention of Artists, Amateurs, Architects, Engineers, Surveyors, &c., to the Drawing Pencils which they manufacture of Brockedon's Patent Pure Cumberland Lead, particular sorts of which have been selected by Mr. Harding, and with which they are supplied by that gentleman's permission: to the Pencils thus manufactured, Winsor and Newton have authority to attach Mr. Harding's name.

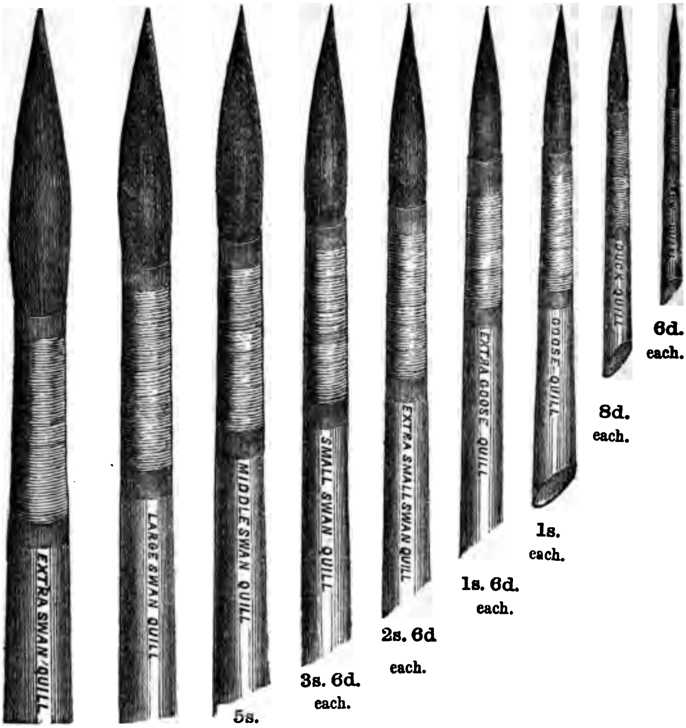
Sold in Cases, containing a Set of Six Pencils, Numbered 1, 2, 3, and 4, with duplicates of Nos. 2 and 3,

Price 3s. the Set.

WINSOR AND NEWTON'S

FINEST BROWN SABLE BRUSHES IN QUILLS,

FOR WATER COLOUR PAINTING.



7s. 6d. each.

5s. each.

3s. 6d. each.

2s. 6d each.

1s. 6d. each.

1s. each.

8d. each.

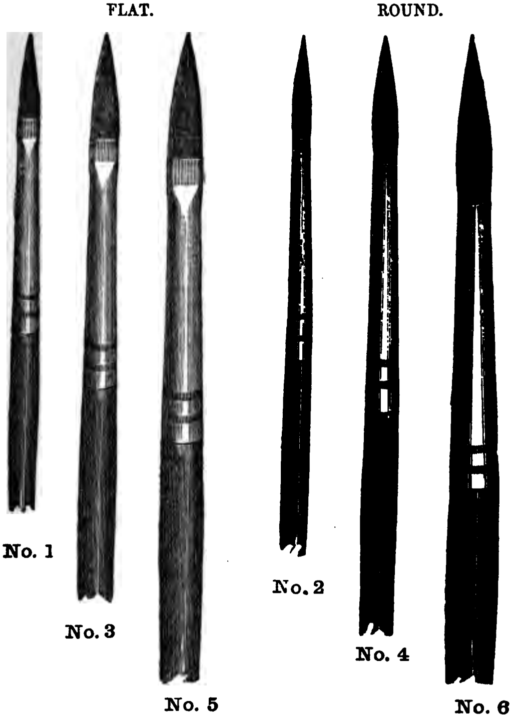
6d. each.

The Brushes are the same Sizes as the Illustrations.

WATER COLOUR BRUSHES.

RED OR BROWN SABLE HAIR.

IN GERMAN SILVER FERRULES, WITH POLISHED EBONY HANDLES.



FOR THE LARGER SIZES OF THE SAME DESCRIPTION OF BRUSH, SEE NEXT PAGE.

FLAT OR ROUND.

The Brushes in Red Sable Hair.

	s.	*d.*		*s.*	*d.*
No. 1.	1	0	No. 4.	1	9
2.	1	3	5.	2	0
3.	1	6	6.	2	3

The Brushes in Brown Sable Hair.

	s.	*d.*		*s.*	*d.*
No. 1.	1	3	No. 4.	2	0
2.	1	6	5.	2	3
3.	1	9	6.	2	6

The Brushes are the same sizes as the Engravings, the remaining sizes can be readily determined from the Illustrations, No. 6 being *the largest,* and No. 1 the smallest, either in flat or round.

WATER COLOUR BRUSHES.

FINEST BROWN SABLES.

Large Sizes, in German Silver Ferrules, with long Polished Ebony Handles.

Round.		s.	d.	Flat.		s.	d.
No. 1.	each	5	0	No. 1.	each	4	0
2.	„	7	6	2.	„	6	6
3.	„	10	0	3.	„	8	0
4.	„	12	6	4.	„	10	0
5.	„	14	6	5.	„	12	6
6.	„	17	6	6.	„	15	0

The Engravings represent a No. 4 Round and a No. 3 Flat Brush. The other sizes being in proportion, larger or smaller.

No. 4.

No. 3.

RED SABLE BRUSHES.

IN QUILL.

		s.	d.
Large Swan Quill . . .	each	4	6
Middle ditto	„	3	6
Small ditto	„	2	6
Extra Small ditto . .	„	2	0
Goose Quill	„	0	8
Duck ditto	„	0	6
Crow ditto	„	0	4
Pigeon ditto, for Lithography	„	0	3

These Brushes correspond in size and form with the Brown Sables, as represented on page 20.

WATER COLOUR BRUSHES,

FOR SKIES, WASHES, AND LARGE WORKS.

A. — Large Round Wire-bound Brush, made of Siberian Hair, a most useful Brush, where large washes of colour are required.

PRICE 3*s*. 6*d*. EACH.

B. — Large Flat Brush in Albata, made of Dyed Sable Hair, suitable for skies, fore-grounds, and large works.

PRICE 3*s*. 6*d*. EACH.

BROWN DYED SABLES.

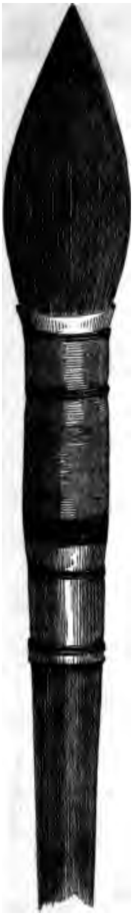
IN METAL FERRULES,

AND BLACK POLISHED HANDLES.

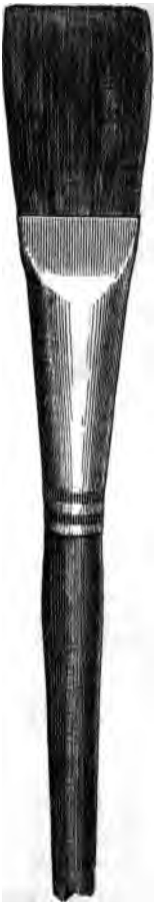
FLAT OR ROUND.

These Brushes are the same in size and form as the Sables in German Silver Ferrules.

		s.	*d.*
No. 1	. . each	0	7
2	. „	0	8
3	. . „	0	9
4	. „	0	10
5	. . „	1	0
6	. „	1	2
7	. . „	1	6
8	. „	2	0
9	. . „	2	9

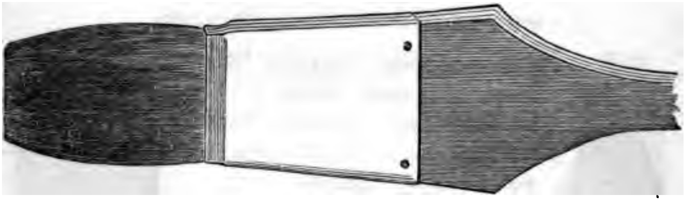


A.



B.

FLAT CAMEL HAIR BRUSHES IN TIN.



		s.	d.			s.	d.
½ inch wide	. . each	0	4	2 inches wide	. each	1	4
¾ "	. . "	0	6	2½ "	. "	1	8
1 "	. . "	0	8	3 "	. "	2	0
1¼ "	. . "	0	10	3½ "	. "	2	4
1½ "	. . "	1	0	4 "	. "	2	8

CAMEL HAIR PENCILS.

Goose Quill.

Duck Quill.

Crow Quill.

Superfine Camel Hair Pencils, assorted
Ditto, ditto, Goose, Duck, or Crow, separately
Ditto, ditto, small Swan Quill
Ditto, ditto, large Swan Quill

FRENCH SIBERIAN HAIR BRUSHES,

IN QUILL, TIED WITH SILVER WIRE.

		s.	d.			s.	d.
Large Swan Quill	. each	2	0	Goose Quill	. . each	0	3
Middle "	. "	1	6	Duck "	. . "	0	2
Small "	. "	1	0	Crow "	. . "	0	1
Extra small "	. "	0	8				

These Brushes correspond in size and form with the Sables in Quill.
See page 20.

WHATMAN'S DRAWING PAPERS,

OF THE BEST QUALITY.

	SIZE
DEMY	20 inches by 15
MEDIUM	22 „ 17
ROYAL	24 „ 19
SUPER ROYAL	27 „ 19
IMPERIAL	30 „ 21
DOUBLE ELEPHANT	40 „ 26
ANTIQUARIAN	52 „ 31

These Papers with the exception of the Antiquarian are also kept Hot-pressed for Pencil Drawing.

DRAWING PAPERS OF EXTRA WEIGHTS AND THICKNESS, FOR WATER COLOURS.

THICK Whatman's Drawing Paper, Imperial (size 30 in. by 21), weighing 90 lbs. to the ream.
Ditto ditto „ 110 lbs. „
Extra THICK ditto „ 140 lbs. „
Ditto, ditto, rough surface „ 140 lbs. „
Very THICK Imperial (Tablet Paper.) 200 lbs. „
Extra THICK ditto ditto 300 lbs. „
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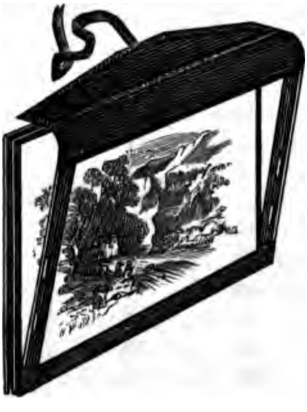

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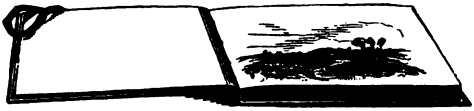

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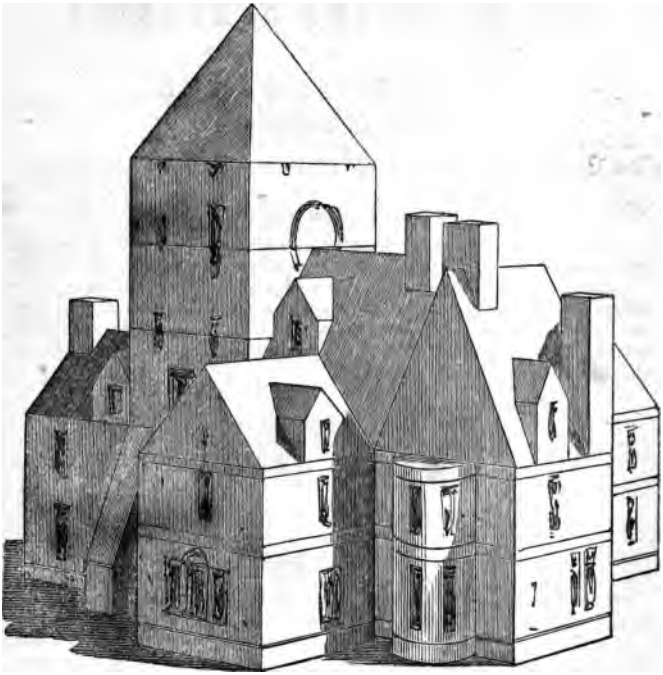

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